

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

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Designer molecules to fight toxins

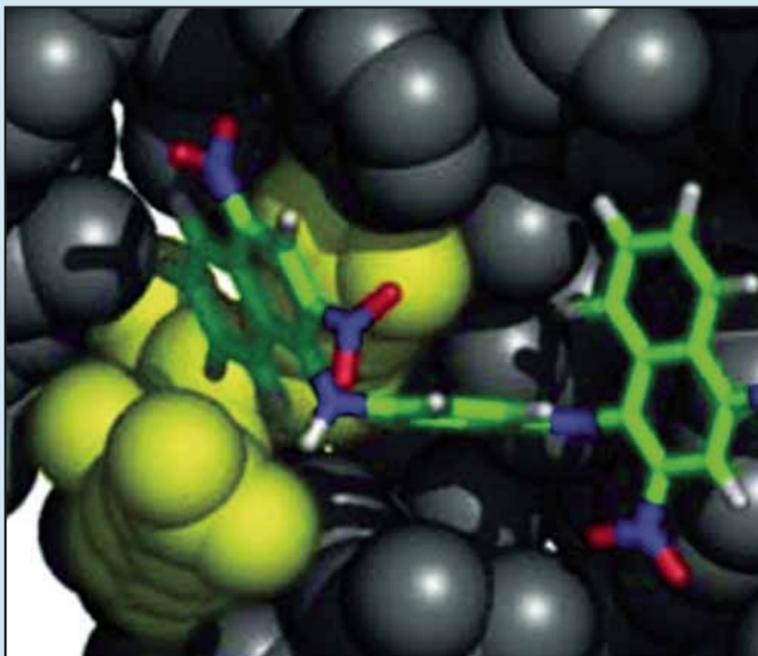
By Nora Mealy

UC DAVIS

Rod Balhorn, a biochemist in LLNL's Biosciences Directorate, has always been fascinated with biological molecules and their surfaces. Their complex, convoluted structures determine which other molecules they will interact with among the thousands they encounter as they carry out their various functions.

"What if I could design molecules to interact in ways that I decide are important?" Balhorn often wondered. "What if I could create something that seeks out, recognizes, and sticks to the surface of a toxin, for instance, then destroys it?"

With the help of computer technology, biochemical manipulations, and plain old trial and error, this sci-fi scenario is becoming a reality. With his collaborators



The individual small molecules that are connected together to create SHALs each fit snugly into their own unique cavities on the surface of the target protein. This graphic shows one of the molecules bound to the tumor cell protein HLA-DR10 that was used to create a SHAL that binds only to human lymphoma cells.

at LLNL and the UC Davis Cancer Center, Balhorn has constructed tiny molecules, dubbed SHALs (for synthetic

See MOLECULES, page 7

New computing era dawns with final transition to Terascale Simulation Facility

By Don Johnston

NEWSLINE STAFF WRITER

A new era in computing is under way as Bldg. 453 — the Terascale Simulation Facility — nears completion.

Moving people and computers from Bldg. 113 to the centrally located Terascale Simulation Facility, or "TSF," began Feb. 1 and is scheduled to end by April 1. "We've made great progress on the move. We have about 150 people now working in the new facility as of this week," said Barbara Atkinson, Computation's liaison for construction of TSF. "It has been an efficient operation made possible by great teamwork."

Janet Conrad, charged with organizing the move, said the move into the building has gone smoothly and according to schedule. Each week some 25 people have been moved with minimal work disruption. People are moved in on Tuesdays and Wednesdays and laboratories and copy rooms on Thursdays.

Laborers and computer support teams have worked intensively to get employees settled into their new offices, said Conrad, who was one of the first to move into the building. "It's not so lonely now," she said.

A key to choreographing the move was carefully planning the order in which groups would be moved, and holding a pre-move meeting, replete with a video offering tips on packing and moving safely, she said.

See MOVE, page 8

Equality in American society still elusive for minorities and poor, Labor leader Dolores Huerta says

By Linda Lucchetti

NEWSLINE STAFF WRITER

Dolores Huerta, who has played a major role in Mexican-American history and the civil rights movement, spoke at the Laboratory on Tuesday to honor Women's History Month and Cesar Chávez Day.

The mother of 11 children and 14 grandchildren, Huerta demonstrated that at 74, she still has the energy and drive that established her as an icon — a champion of causes affecting minorities and the poor.

Her talk mixed her personal experiences about her past — advocating the rights of farm workers — with her present perception of American democracy. "We still do not have equality in our society; we are still trying to

See HUERTA, page 8

All is fair in science and engineering



JACQUELINE MCBRIDE/NEWSLINE

Nathan Gray, a senior at California High School, explains his science project to judges Thursday morning at the ninth annual Science and Engineering Fair held in the San Ramon Valley Conference Center. Gray took a first place prize for his project and also earned two special awards. Look for complete coverage of the fair in next week's *Newsline*. The exhibit will be open to the public on Friday and Saturday.



A veteran of education

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DDLS focuses on neutrino's rising star

— Page 3



Learning software risk management

— Page 4



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Tuesday
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The American Cancer Society's "Daffodil Days" flower delivery is today.

Volunteers can pick up their orders at Trailer 6575 (Press Room) near the Discovery Center. If volunteers are unable to pick up their orders, they should contact Kirsten Sprott, 4-4822. Extra flowers will be on sale for those who are interested but did not place orders in advance.

...

An in-depth workshop on the submission of proposals for the **Laboratory Research and Development (LDRD)** FY06 Laboratory-wide competition will be held today, 10 a.m.-noon, in Bldg. 123, conference room A, which is a Common Use Facility (CUF). In this workshop, you will be given a brief history of the program and all the details on how to submit a well-written proposal. The workshop will be led by Jim de Yoreo of the Laboratory Science & Technology Office and is recommended for those interested in submitting a new proposal or a proposal for continuance. A second workshop will be held at a later date. The deadline for online proposal submission is Monday, April 11.

Note: A foreign national may access Bldg. 123, conference room A provided that: his or her badge is marked with the letters "CUF" or; temporary building access procedures are followed. These procedures can be found at http://www-r.llnl.gov/foreign_nationals/

For further information, contact Jim de Yoreo, 3-4240, or Brenda Foster, 2-5214.

Thursday
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Join the Laboratory's **Bible Study Group** in celebrating Easter through scripture reading, testimony and song. The group will meet in the Bldg.155

auditorium on Thursday, March 24, from 12:05-12:45 p.m.

...

Attention postdoc research advisers: LLNL is starting a **National Research Council (NRC)** postdoc program. Information on the program and mentor requirements can be found at <http://www4.nationalacademies.org/PGA/rap.nsf/webdocuments/SponsorGuidelines>. Contact Harry Radousky, 2-4478, or Bev Williams, 2-5020, by March 31 to discuss program costs and obligations if you are interested in hosting an NRC postdoc fellow.

Up
&
Coming

The Livermore/Pleasanton **READ Project** is seeking volunteer tutors to help motivated adults improve their basic reading and writing skills. A free tutor training workshop will be held at the Pleasanton Public Library on March 28 from 7-9 p.m. and on April 2 from 9 a.m. to 4 p.m. For more information, call 373-5507.

Send calendar items to Linda Lucchetti, Lucchetti1@llnl.gov

RETIREE'S CORNER

Sam Perone (Chemistry & Materials Science, 1989) has published his third novel, "Einstein's Tunnel." A reading celebrating this event took place at Altamont Books in Livermore.

"Einstein's Tunnel" is the third book in a trilogy that includes "The StarSight Project" (2002) and "Crisis on Flight 101" (2003). The first book was set in the Livermore valley, Livermore Lab and San Francisco. The novels are futuristic psychological thrillers, describing the adventures of Tony Shane — a computer science professor secretly involved in radical CIA counter-terrorism activities. (For reviews, excerpts, biographical and other information see: www.samperone.com).

After returning from a cruise to the Antarctic Peninsula early last year, **Larry Moon** (Director's Office, 2001) had to see more so went recently on another cruise to the islands of South Georgia, and also the Falklands. South Georgia in particular is very scenic and a rich home for wildlife. The island is about 100 miles long and up to 25 miles wide, rising steeply like a Himalayan mountain range from the south Atlantic Ocean. It is considered to be part of Antarctica, although still some distance from the continent. The wildlife includes penguins, birds, seals and whales. Highlights were landing on beaches with up to a half million penguins, and visiting nesting sites for albatrosses. The Falkland Islands were much better than expected. They were low, barren and windblown, but there are areas in the Falklands that are rich in wildlife too. An interesting sidelight was the continuing existence of uncleared minefields near the main town of Stanley, dating from the conflict with Argentina in the early 1980s.

A little more than a half century after his high school peers donned their caps and gowns, **Ronald Ray Hill** (Mechanical Engineering, 1991) finally received his high school diploma. In a ceremony at the Alameda County Board of Education's meeting, Ron, now 71, got the diploma he missed while serving on a warship during the Korean War in 1950. His education at Theodore Roosevelt High School in Fresno was interrupted in his senior year for a two-year tour aboard the cruiser Toledo off the Korean coast. Although he requested his diploma upon his return home, counselors advised him to finish his schooling at Fresno Junior College. He

earned a college degree and went to work in 1956 as a mechanical technician at the Lab, where he spent 32 years. He is one of many war veterans statewide who are finally

getting their high school diplomas since Gov. Arnold Schwarzenegger signed a law last fall allowing county offices of education to grant diplomas to those who missed them because of World War II and the Korean and Vietnam wars.

Pat (G Division, 1991) and **Jane** (Engineering, 1993) **Ellis** took their first Grand Circle Tour called the Jewels

of Thailand. They highly recommend it as the price is reasonable and the tour is excellent. Their first week in Bangkok they spent most of their evenings with their son, Erich and his wife Am, as they both work there and are building a new house. Since this was their third visit to Thailand, they didn't do some of the tours that were offered, however, they did enjoy the tour of the Bridge over the River Kwai. They were in Bangkok when the tsunami hit, however, they were on their way to the beach on the Gulf of Thailand and not on the Indian Ocean side. The place they stayed on the ocean side about 11/2 years earlier when they were over for Erich's wedding was totally destroyed, and it was an absolutely beautiful resort. When they flew out, the airport was packed and they talked with several people who were there when the tsunami hit, and there were some pretty sad stories.

In last month's article, **Dick Eddy's** e-mail address was inadvertently left out, so here it is: eddyrp@sbcglobal.net But don't expect a fast reply as Dick and Pat keep up their "less-than-six-months-a-year-at-home" pace.

The **Travel Group** will meet on Tuesday, March 22, at 2 p.m. in the Community Room of the Livermore Police building, 1110 South Livermore Ave. The topic is "Touring the Scandinavian Capitals and Iceland" by John Stroud.

Please send any input to Jane or Gus Olson. E-mail: AugustO@aol.com or JaneRubert@aol.com. Phone: (925) 443-4349, snail mail address: 493 Joyce Street, Livermore, CA 94550.

IN MEMORIAM

Louie A. Allen

Louie A. Allen, a Marine Corps veteran, died in Pleasanton on March 5. He was 89.

Allen was born Oct. 30, 1915, in Prentis, Miss. He lived in Hawaii for several years, working for Castle and Cooke terminals. He relocated to San Leandro, where he met his future wife at Second Baptist Church. They moved to Livermore in 1964 where he worked at the Lab as a security guard.

He is survived by his wife of 43 years, Ruth Allen; children, Sandy Greer of Livermore; Patricia Green of San Leandro; Louie Allen of Livermore; and Virgil W. Dahl of Lincoln; siblings, Virginia Philips of Niceville, Fla.; and Dempsey Allen of Jackson, Miss.; 11 grandchildren and 10 great-grandchildren.

He was preceded in death by his parents and his brothers, Clarence Allen and Roy Allen. Services have been held.

Newsline

Newsline is published weekly by the Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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AROUND THE LAB



Noted physicist to present the 'Decade of the Neutrino'

Physicist Stuart Freedman will deliver a Director's Distinguished Lecturer Series presentation entitled "The Decade of the Neutrino" at 3:30 p.m. Tuesday, March 29, in the Bldg. 123 auditorium. Employees are invited to attend.

Freedman is a faculty senior scientist in the Nuclear Science Division at Lawrence Berkeley National Laboratory and a professor of physics at UC Berkeley.

Nearly everyone who has heard about the current revolution in the understanding of the neutrino agrees that the world is in the midst of the decade of discovery. Within the past seven years, science has established that neutrinos definitely have mass but usually exist in states that are mixtures of the mass quantum states.

This new knowledge has come from a series of experiments that have demonstrated that neutrinos are much more interesting than previously imagined. In this talk, Freedman will review the current understanding of the

neutrino and speculate about the future.

Freedman also is group leader of the Weak Interactions Group, which is affiliated with both LBNL and UC Berkeley and which is involved in many precision tests of the Standard Electroweak Model, using techniques from atomic physics as well as traditional nuclear physics methods to make precision measurements of fundamental parameters in the low-energy regime.

After obtaining a Ph.D. in physics from UC Berkeley in 1972, Freedman taught first at Princeton University, then at Stanford University (1976-1982) as an assistant professor. His current activities include



Stuart Freedman

serving as a co-chair of the American Physical Society Multidivisional Neutrino Study, and as a member of the Department of Energy/ National Science Foundation Nuclear Science Advisory Committee, the Joint Institute of Nuclear Astrophysics Executive Committee, and the National Research Council Committee on Elementary Particle Physics.

His honors and awards include a Sloan Foundation Fellowship (1978-1982) and appointment to the Luis W. Alvarez Chair in Experimental Physics (1999). He also is a Fellow of the American Physical Society and the Japanese Society for the Promotion of Science, and a member of the National Academy of

Science.

The presentation will be rebroadcast on Lab TV Channel 2 Thursday, April 7, 10 a.m., noon, 2, 4 and 8 p.m. and 4 a.m. Friday, April 8.

DOE awards \$62.4 million for clean coal projects

WASHINGTON, D.C. — Energy Secretary Samuel Bodman announced earlier this week the award of \$62.4 million for 32 clean coal research projects to advance President Bush's goal to develop a coal-fired zero emissions power plant.

This initiative also will advance other energy-related policy initiatives in energy, climate and hydrogen, including the FutureGen zero-emissions power plant of the future.

"Coal is our most abundant fuel resource. It's important that we find ways to use it in a cleaner, more efficient way in order to provide the energy needed to continue our economic growth and job creation," Bodman said. "All of these projects are an investment in our nation's energy and economic security, present and future."

Among the objectives of the research are:

- Improved and new methods of producing pure

hydrogen in coal gasification.

- Hydrogen handling — safe storage of hydrogen, and on-board storage, which will aid the commercialization of hydrogen fuel cell vehicles.

- Improved and simplified removal of multiple pollutants in coal gasification.

- Development of carbon dioxide capture technology that can be retrofit on existing coal-based power plants.

- Expansion of carbon sequestration technology to identify and accurately assess the CO₂ storage capacity of geologic formations.

- Development of new alloys to advance ultra-supercritical generation with pulverized coal, an emerging newer technology that can deliver power with ultra-low emissions and ultra-high efficiency.

For more information on the awards including descriptions, go to DOE Website: <http://www.energy.gov>.

Superblock activities remain in stand-down

The stand-down of programmatic work within the Superblock — Plutonium Facility — remains in effect.

Materials necessary for a JASPER gas gun experiment were packaged and shipped to the Nevada Test Site. And the Plutonium Facility will participate in an upcoming security exercise.

Other than those events, all efforts within the facility remain focused on safety, security, materials accountability and administrative procedures. Laboratory management is working with the National Nuclear Security Administration Livermore Site Office on plans and procedures for resumption of normal operations.



Going buy the book

Lynn Groves displays the abundance of books available at the B Division/LLLWA book sale. The sale runs today 11:30 a.m. to 1:30 p.m., in Bldg. 132, room 1200 (Q- or L-cleared access only). Employees can fill a paper grocery bag full of books and tapes for \$5. All proceeds are used to buy Christmas gifts for needy children and to fund LLLWA scholarships. Each year the sales help agencies in Alameda, Contra Costa and San Joaquin counties, plus individual families in need. For more information, call Lynn Groves, 2-1684.



NEWS YOU CAN USE

Course covers basics of software quality control

The American Society for Quality (ASQ) offers a two-day Software Risk Management course designed to provide a knowledge base and practical skills for anyone interested in implementing or improving software risk management techniques and practices in their organization.

This course starts with an overview of software risk management basics, including definitions of risk management terminology, a discussion of the importance of software risk management and different types of software risks, and the introduction of the software risk management process.

Current software project and program managers, quality engineers and other software project stakeholders involved in identi-

fying and analyzing software risks, creating and implementing risk management plans and tracking risks are encouraged to attend. The course will be taught by Linda Westfall, president of "The Westfall Team." Prior to starting her own business,

Westfall was the senior manager of the quali-



ty metrics and analysis at DSC Communications.

The course is offered from 8:30 a.m.-4:30 p.m. on April 4-5 or May 18-19. The course is sponsored by the Institutional Software Quality Assurance, <http://www-r.llnl.gov/isqa/> and hosted by Center for Applications Development and Software Engineering (CADSE), <http://www-r.llnl.gov/cadse/>.

For more information, contact Angel Weigel in the Center for Applications Development and Software Engineering (CADSE), 2-5654.

Technical Meeting Calendar

Friday
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COMPUTATION

"Open Source Solutions for Managing Technical Information," by Bob Barter, LLNL, Valerie Stanton, LLNL, and Munwar Sharif, Cignex. 9 a.m., Bldg. 361 auditorium. Property protection area. Foreign national temporary building access procedures apply. Contact: Bob Barter, 2-5150, or Valerie Stanton, 2-5755.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"An Introduction to Chapel: Cray Cascade's High Productivity Language," by Bradford Chamberlain, Cray, Inc. 10 a.m., Bldg. 451, room 1025. For more information, see URL (<http://www.llnl.gov/casc/calendar.shtml>). Property protection area. Foreign national temporary building access procedures apply. Contact: Bronis de Supinski (CASC), 2-1062, or Erica Dannenberg, 3-2167.

Monday
21

CHEMICAL BIOLOGY AND NUCLEAR SCIENCE/BIOSECURITY & NANOSCIENCES LABORATORY

"Quantitative Proteomics Approaches to Understanding Nuclear Hormone Receptor Signaling," by Kip Guy, Department of Pharmaceutical Chemistry, Department of Cellular and Molecular Pharmacology, UC San Francisco. 2 p.m., Bldg. 151, Room 1209. Foreign nationals may attend if approved plan is on file that includes Bldg.151. Contacts: Katie Thomas, 2-7903, Ted Tarasow, 3-7241, or Jeff Tok, 3-1549.

Tuesday
22

NATIONAL IGNITION FACILITY

"Synergy at Action: In Accelerator Driven Systems (ADS) Spallation Induced by Protons from High Power Accelerators Meets Fission in Fast Reactors," by Peter Armbruster, GSI-Darmstadt, Germany, 11 a.m., Bldg. 482, room 1103, auditorium.

Property protection area. Foreign national temporary building access procedures apply. Contact: Dieter Schneider, 3-5940, or Monica Antone, 3-8200.

JOINT RADIATION DETECTION CENTER/ GLENN T. SEABORG INSTITUTE

"Concept and Applications of Gamma-Ray Tracking in Position-Sensitive Semiconductor Detectors," by Kai Vetter, Glenn T. Seaborg Institute. 11 a.m., Bldg. 151, room 1209. For a list of upcoming and past RDC Seminars, visit the RDC Seminar Website, <http://rdc.llnl.gov/seminars.html>/ Property protection area. Foreign national temporary building access procedures apply. Contact: Christie Shannon, 3-6683, Nancy Hutcheon, 2-1748, or Ron Wurtz, 3-8504.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH (ISCR)

"Introduction to CVS and Subversion," by Steve Smith, LLNL, Center for Applications Development and Software Engineering (CADSE), 10:30 am, Bldg. 551W, room 1400, Del Valle Room. Property protection area. Foreign national temporary building access procedures apply. Contact: Steve Smith (CADSE), 3-8958, or Erica Dannenberg 3-2167.

Wednesday
23

ENERGY AND ENVIRONMENT DIRECTORATE

"HCCI Combustion Overview and Current Research," by Salvador Aceves, Energy Technology and Security Program. 1:30 p.m., Bldg. 170, room 1091, (refreshments will be served). Contact: Camille Vandermeer, 3-2672.

N DIVISION

"Modeling Nuclei and Nuclear Reactions," by Vesselin Gueorguiev, N Division, 1:30 p.m., Bldg. 211, room 227. Property protection area. Foreign national temporary

building access procedures apply. Contact: Pat Smith, 2-8210.

Thursday
24

PHYSICS & ADVANCED TECHNOLOGIES/V DIVISION

"Plasma-Based Electron Linear Accelerators From Cathode to Final Focus," by Matthew C. Thompson, UCLA, Particle Beam Physics Lab. 10:30 a.m., Bldg. 219, room 163. Postdoc interviewee. Property protection area. Foreign national temporary building access procedures apply. Contact: Stefanie Landes, 2-3201.

PHYSICS AND ADVANCED TECHNOLOGIES/N DIVISION

"Microscopic Approach of Fission Dynamics Applied to Fragment Mass Distributions in 238U," by Heloise Goutte. 1:30 pm, Bldg. 211, room 227. Property protection area. No temporary building access for foreign nationals. Contact: Erich Ormand, 2-8194, or Annette Cook, 2-7856.

NAI COLLOQUIUM

"Capabilities & Science of the Forensic Science Center," Glenn A. Fox. 2 p.m., Bldg. 132S, room 1000, NAI/DNT auditorium. Unclassified. Building access requires "L" or "Q" badge.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Please submit your meetings via the new Technical Meeting Calendar form on the Web, located at <http://www-r.llnl.gov/tmc/index.html> For information on electronic mail or the newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

Avoiding the Good Friday demonstration gridlock

Employees are urged to help reduce traffic problems associated with the annual Good Friday activist demonstration on March 25. This year's turnout is expected to approximate last year's, but according to Protective Force Division's Lt. Mark Short, the traffic consequences could be far worse.

The problem area is the intersection of Vasco and Patterson Pass roads, where Livermore Police Department traffic officers will attempt to mitigate congestion. The current construction closure of north Greenville Road increases traffic volume through that

intersection to near capacity during morning and evening commute hours.

According to Short: "Demonstrators will arrive and stage at Vasco and Patterson Pass starting at 6:45 a.m., marching to the Westgate Laboratory entrance for civil disobedience and closure of Westgate entrance sometime after 8 a.m. The additional pedestrian traffic through the intersection will change the traffic signal timing, and could snarl traffic badly between 7 and 10 a.m."

To be part of the solution and not part of

the problem, Short encourages employees to arrive at work using Vasco Road before 7 a.m. Alternatively, between 7 and 10 a.m., everyone should enter and exit the Lab through the Southgate entrance via East Avenue, where Sandia will open an additional traffic lane at the Vasco Road portal.

To reach this entry point, the Livermore Police Department suggests drivers exit I-580 on First Street, turn left onto Tesla Road, turn left onto Vasco Road, and proceed to the East Ave. post.

Mesquite Gate will remain closed.

BRIEFLY

Space available in retirement workshop

Space is available for the two-day Comprehensive Retirement Planning Workshop on April 6-7 in the Bldg. 123 auditorium. This workshop, offered by the Benefits Office, is designed especially for those within 10 years of retirement. It will provide participants with a complete overview of the benefits from the UC Retirement Plan, including eligibility requirements for continuing health benefits after retirement. The workshop also will provide a comprehensive look at Social Security, Medicare, long-term care, investment options, estate planning techniques and "career" alternatives after retirement. To register online, go to the Benefits Website at <http://www.llnl.gov/llnl/02employment/benefits/seminars.htm>. The cost for the workshop is \$95. Employees may register their spouse/partner to accompany them at no additional cost by calling the Benefits Office, 2-9957.

Leadership videos and broadcast series

The Continuing Education Committee and the Employee and Organization Development Division are offering, at no charge, a series of televised leadership broadcasts and online access to archived videos.

Leadership Videos On Demand — View videos on your desktop — the topic you want, when you want it. Access a library of more than 300 programs on leadership and management, with world renowned thought leaders. You must register for a free user account by visiting this Website: http://www-r.llnl.gov/human_resources/sedd/eodd/lds_vod.html

Leadership Broadcast Series — Watch some of the world's foremost leading business authors, experts and CEOs speak on topics that include management, leadership, change and innovation, communication, motivation and collaboration. These facilitated lecture rebroadcasts are an excellent way to develop your leadership skills. Watch them in Bldg. 571, room 2301 or on Lab TV Channel 4. You must pre-register for these broadcasts at http://www-r.llnl.gov/human_resources/sedd/eodd/lds_lbs.html To enroll in the three featured broadcasts and receive handouts, register by visiting http://www-r.llnl.gov/human_resources/sedd/eodd/topic_self_dir_learning_lds.html

For more information, call 4-5479.

Marcus Buckingham, author of "Now, Discover Your Strengths" from 10-11:30 a.m., Wednesday, March 29, presents "The Core of Great Leadership." Buckingham identifies the primary

responsibility of a leader and highlights the one thing that all effective leaders do to fulfill this responsibility. He will describe how the role of the leader differs dramatically from that of the manager and will pinpoint the actions you must take to excel at both.

Jim Kouzes, author of "The Leadership Challenge," from 10-11:30 a.m., Wednesday, April 20, presents "Exemplary Leadership." Are leaders born or made? Kouzes will describe the five practices of exemplary leadership and talk about what you can do as a leader to apply them to your own leadership challenges.

Marshall Goldsmith, author of "The Leader of the Future" from 10-11:30 a.m., Thursday, May 12, will present "Coaching for Leadership." Goldsmith discusses the most effective coaching techniques for leadership development, including how to improve as a leader yourself and how to best use feedback.

All broadcasts are on Lab TV Channel 4. Group viewing available by sign up for Bldg. 571, room 2301. To enroll in the three featured broadcasts and receive handouts, register by visiting: http://www-r.llnl.gov/human_resources/sedd/eodd/topic_self_dir_learning_lds.html



A new cycle

At right: Jan Tulk, associate director for Administration and Human Resources, takes a spin during one of the new cycling classes that have been added to LLESA's Fit For Business exercise class line-up. LLESA is part of AHRD. Cycling 101, a beginning cycling class, and Power Cycling, a high-intensity class, are held in Trailer 4675, room A. For further class information, call the LLESA office at 2-9402.



CLASSIFIED ADS

See complete classified ad listings at
<https://www.ais.llnl.gov/newsline/ads/>

AUTOMOBILES

2001 Dodge Stratus RT Coupe. Automatic transmission, fully loaded, 6-disk CD, leather interior, moon roof, new tires. Excellent Condition. 10K or best offer. 209-599-4840.

2002 - Pontiac Grand Am GT sedan, 14K miles, V6, Sunroof, CD, Grn. \$13,500 925-968-0560

1974 - Mercedes 450 SL Roadster. 4.5L Fuel Injected V8. Includes both hard and soft tops. Runs great, body good, but needs paint. See on-site. Make Offer 925-371-8111

1992 - GMC TYPHOON, back from shop, thousands below wholesale blue book, rare collectible, call for details, first \$9500 925-455-6174

1999 - Ford Expedition XLT, A/C, sport package, tow, many extras. 85000 miles. Must See. Blue book \$10700. Asking \$9500 209-629-4860

1992 - S10 Blazer 4x4 4.3 vortec, \$3,450, 1988 Dodge 1/2 ton short bed 4x4 5.2L, \$2,950 916-421-8005

1997 - Jaguar XK8 sapphire blue, convertible. 80k miles Excellent condition, fully loaded, new tires all round. \$19750. 925-606-1971

2000 - Ford Focus LX, black, 4 dr., 5 speed, new clutch, AC, CD, 81K, good commuter or student car, \$5,700 o.b.o. 925-447-4161

1998 - Mustang GT, V-8, convert., AT, AC, prem. sound system, Flowmasters, red w/ beige leather int., new brakes, excell. cond., orig. owner; \$9,000 OBO. 925-447-9319

1987 - Toyota Camry: silver-grey, 125k original miles, 4door, 4cyl, auto, air, cruise, new am/fm/cd, new tires, battery, very good condition \$1950/offer 209-545-6892

1991 - Buick La Sabre, 3.8 liter, factory rebuilt tranny, power windows, locks, seat, 147,000 mi. \$2,400 o.b.o. leave message. 209-239-1963

Ford 9 inch third member, nodular case, new locker, 4:33 gears, 31 spline axels. never ran, new in box. \$950.00 209-815-0335

1995 - E320 Mercedes, 64100 miles, Loaded, Excellent Condition, Sun Roof, Alarm, Tinted Windows, Black on Grey, \$9950. See at lab sale area. 925-371-7995

2001 - Ford Escape XLT AWD, champagne beige, top condition, original owner, 78k miles, nearly new Michelins \$11,900.00 925-964-9406

1996 - Camero Great Condition \$5,000.00 OBO. 952-455-4355

1992 - Mitsubishi Eclipse GS 16V-DOHC 2D-Hatch. 5-speed manual. A/C, sunroof, spoiler. New tires. Good condition. Original owner. 128,000 miles. \$1900 OBO. 925-321-2991

ATTENTION T-BIRD lovers. Thunderbird LX excellent condition, 27k mi. quality sound, cassette. Drives like a dream. 5,998.00 510-582-2938

AUTOMOBILE ACCESSORIES

1990 Acura Integra Sunroof Glass + Frame. Used. Also selling drivers side headlamp lens. Used. 925-963-2965

TIRES/RIMS: 265/70R16, Firestone Wilderness LE w/GMC chrome rims, off Yukon, tires used approx 15k miles, excellent cond. \$200 209-599-1955

Set of 4 Wheels w/tires. For Chevy (5-lug). \$100.00 for all. 925-371-1705

BICYCLES

Burley d Lite bicycle trailer, excellent condition, \$200. 925-935-1572

2004 Trek 820ST Mountain bike, very good condition, new tires, Front suspension, \$175.00 OBO. 925-449-6137

Bicycle, \$100. Eastwood KHS 19 inch frame, 21 speed, lock and kickstand included. 925-443-4231

BOATS

35HP electric start outboard with throttle cable, steering cable and gas tank in good working order. Please make me an offer! 925-516-2570

CANOE Coleman Red 15 foot Explorer Ram-X w/paddles, seat backs. \$200 OBO. 925-243-0646

10 FOOT POLE Slips over your boat pylon to raise the tow rope for wakeboarding. Complete with 4 board rack/bow strap/cable. \$250 925-516-9510

ELECTRONIC EQUIPMENT

Motorola Radius P50 radios (2) and drop in charger. \$75 for set. 925-455-4484

Kodak Instamatic M105 movie projector. \$50. 925-706-2088

HP COLOR printer, only used twice. 30.00 510-537-7222

Garmin GPS 12 handheld unit. \$60 209-483-8719

eMachines computer. PIII, 600 MHz, 64 Mb RAM, 20 GB, DVD ROM, Windows 98. 17 inch Monitor, keyboard, mouse. Useable but has slight video problem. \$70 925-417-7593

GIVEAWAY

Free FREEZER Upright, White, G.E. 16 cu ft, glass shelves, works, gets too cold, Livermore, call 846-5060 or 925-447-7070

Computer internal IDE CD drives. 2 ea CD-RW and 1 ea CD-ROM. 925-443-9182

Sofa with reclining ends. Neutral color, excellent condition. You haul from Livermore. 925-456-3010

Old refrigerator to give away. Excellent working condition. 925-455-6684

HOUSEHOLD

4 Breuner chairs with arm rest, like new \$50 for set of 4. 415-543-3643

White metal convertible sofa/bed frame. You add the futon. Excellent condition. \$30. I just need the space. 925-516-2570

Freezer, frostless upright, 18.2 sf shelf area, lockable door, great condition \$100. Steam cleaner, Bissell, for carpet & upholstery \$50. 925-828-1926

Flannel sheet sets. Twin size, one set Toy Story, one set Winnie the Pooh. Excellent condition. \$10 per set 925-706-2088

Couch for sale. Light Brown, dual recliner, about 6.5 x 3.5 ft. Very good condition, can email picture. \$300 obo. 925-829-7185

Antique Yellow China Cabinet, excellent condition \$75, Oak coffee table and end tables \$100. 925-447-9355

Humidifier, Holmes 9 gallon on cast-er wheels. New in unopened box. Paid \$80 plus tax. \$50. 925-648-0671

Chairs, casual dining (4) with oak arms and rolling base. Upholstered in shades of blue, peach and mauve. Great condition! 925-443-7082

Teal green love seat. Plenty of pillows, like new condition. \$150.00 Call 925-240-9804. 925-240-9804

Bissell vacuum, excellent working condition. Very powerful, like new. Attachments included. 40.00. Have too many. 510-537-7222

Electric lift recliner, great condition,

\$400 510-538-7444

Pink daybed w/ floral accents, includes frame, trundle that rises to same height as bed & 2 mattresses. \$200 or OBO. Great condition! 925-373-6641

Full size futon with metal/wood frame. Includes mattress. 2 years old \$50 925-449-2038

Honeywell Enviracaire Air Purifier, \$55. Barely used; ~\$145 new. HEPA filters 99.97% airborne particles. Patented 360-degree air intake/discharge. 925-634-1110

Pine bunk bed set, \$600; coffee tables, 2 sets, \$50-\$175; oak frame daybed w/pop-up trundle, \$300. Call for details! 925-947-1120

Blue aluminum frame bunk bed - full on bottom, twin on top. Comes with bunkie boards and mattresses. Good condition. Asking \$100. 925-447-9055

Benchcraft full size couch in good condition. Color- Browns and tans. Subtle leaf pattern in fabric. Pictures available. \$115 obo. 925-864-8626

DAYBED, cream w/brass, includes trundle and mattresses \$200, DRESSER, 9-drawer, french provincial style, cream w/gold trim \$100 209-599-1955

Wood bunk bed, excellent condition, can be used as two separate twin beds. Comes unassembled. \$40 OBO. 925-449-9344

Refrigerator, Whirlpool corp. Model ED@PKXSN10, 20 Cubic feet. side by side. Type cossa90 excellent condition \$200.00 925-443-1097

Coffee table, two end tables. Cherry wood trim around glass, solid second shelf. \$200 obo 209-545-0849

LOST & FOUND

Lost, 3/10/05. Silver Horse pin. Gift with sentimental value. If found please call 2-3457 or 2-6300. 209-838-2808

MISCELLANEOUS

Radial Arm Saw. Craftsman, good condition, \$50. 925-606-9575

SUPPORT GROUP for BETTER RELATIONSHIPS-personal/business! Codependents Anonymous (CoDA) Meets Tuesdays Noon T3520/R1174 Just come or call for Info 925-447-7070

Pressure washer, Clean Machine, Powermate 1210 Coleman \$25.00 925-447-5459

Treadmill, 115V, 2HP, 6MPA, powered by GE \$100. Lawn Chair cushions, pastel tweed, six 6-inch thick like new \$60. Bathroom strip light \$10. 925-828-1926

Purple Cancer HOPE Bracelets for \$1.00. Just like the yellow Lance Armstrong bracelets. Call 925-373-9435

Fireplace screen, gunmetal gray wrought iron, 31 inch high x 51 1/4 inch wide. New in unopened box. Paid \$60 plus tax. \$35. 925-648-0671

Parting out contents of two machinist tool boxes, includes mics, indicators, gages, tooling and more. Quality items, fair prices 209-835-2416

Jacuzzi Spa, 1995, 5 person, 220V, waterfall, EZ off lid, good condition, \$750/Offer 925-829-3226

Sears professional 6in jointer #152.217060 w/spare blade set. Used once. (New \$425) \$250; Enco 6x48in belt sander w/12in disc, 1HP 110/220V, \$125. 209-239-8984

Graco Easy-Chair highchair, used 3-4 times for grandchildren. Excellent condition. \$20.00. 925-961-1658

Arc Welder. Sears Craftsman .Older

model but in good shape. \$50.00 925-447-6301

Lateral Thigh Trainer, brand new, \$50; Glider, excellent condition, \$50. 925-449-5530

Radial arm saw 8 inches older cast frame on a stand \$150.00, Portable 200Amp arc welder and 50ft extension with hood and supplies \$150.00 925-447-8817

Non-profit in SF looking to expand its Board of Directors. Minimal time commitment. 650-464-3630

MOTORCYCLES

2003 - Harley Softail Deuce. 100 Anniversary Model. Immaculate Condition. Exhaust, Security. 1100 Miles. 4 Year Service. Paid Over \$23000 Asking \$18,500 209-629-4860

Race Kart - Margay chassis, 125 Comer Kart engine. Clutch type. Like new condition. One run on new tires. Good for kids 12 to 65. \$2,000 209-838-0304

MUSIC INSTRUMENTS

Piano, upright, Kimball Co. Chicago USA Manufactured between 1906-1920. Needs refinishing. \$100 925-447-4819

PETS & SUPPLIES

Birdcages. One white wire, lightweight, 2ft cube, great \$10. One custom oak and mesh, 1.5x3x3 ft, built in pedestal with storage, fair, free. 925-606-9575

German Shorthair Pointer Pups For Sale Field Champion Blood Line Snap-E-Tom Breeding. Litter Due May 15 05. Call 4 Details. 925-447-4479

Kitty season is on its way. This means many sweet kits/cats will have to be euthanized. Please consider fostering to save some lives. puppies too! 925-980-3035

Rabbits, pair, 2 yr. old females need new home due to downsizing. Free. 925-447-4370

Must sell adorable Yorkshire CKC puppies, 12wks male \$850 female \$950 OBO 1yr guarantee. Have had all shots/worming 209-612-4301 209-346-3013

RECREATION EQUIPMENT

1980 Toyota Dolphin 20ft Motorhome. Good Condition. I used for Camping. Bought a bigger one. \$1500 or B.O. Will email you pictures. 209-983-8886

Sparring gear, one child set, one adult set. \$25 each set. 925-706-2088

1995 Kawasaki 550sx and 440sx Jet Skis (Stand-Ups) on double trailer. Low Hours, Good Condition, New Batteries. \$1950 or Best Offer. 209-983-8886

ALUMINUM BOAT 12 foot V hull game fisher, electric trolling motor, marine battery, charger, anchor, some accessories. \$450.00 after 3 p.m. 209-956-9015

Bow, Jennings Promaster, Camo, 28 inch draw length, 60lb peak weight, \$250 925-447-6819

2000 21 Ft. Wilderness Hybrid trailer, front and rear pop outs, sleeps 7, full kitchen and dinette, ultra lite \$8,900 925-455-8222

Rowing (exercise) machine \$30.00 925-447-8817

Above Ground Pool with ladder, pump, filter. Complete set up. Made by Splash. Buyer to pick up and haul away. Asking 2,000.00 925-373-6651

Marriott Anaheim (near Disneyland) gift certificate one night hotel stay and includes hotel tax. Well over

\$150 value. \$90. 925-648-0671

Body solid weight bench w/ latpull down, leg extension, squat attachments. 300 lbs olympic weights w/ bar. Brand new little use. 300 obo. 209-545-0849

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>

Pleasant Hill/Walnut Creek - Seats available on luxury van; \$100-\$120 depending on ridership. Arrive LLNL 7:35AM, Depart 4:30PM. 925-947-6969, ext. 2-4206

Modesto - Sve \$\$\$ and join our vanpool. We leave at 6:35 am from Home Depot and leave the Lab in evening at 4:45 pm. 5/8 hr work/wk. 209-576-0217, ext. 2-7459

Lafayette - LaMOrinda Vanpool (also WALNUT CREEK stop at Rudgear commuter lot): reclining seats, reading lights, 7:45-4:45, \$105/mo (pretax reduction available) 925-943-6701, ext. 2-3005

Farmington - Car pool. AWS T-F 6:00- 4:30 Leave Farmington @ 4:30 AM 209-785-1215, ext. 2-7637

Orinda - Lamorinda carpool seeks 4th rider/driver. Meets near St. Stephens and Highway 24. Lab hours 8am-4:45pm 925-253-0498, ext. 2-9823

SERVICES

House Cleaning Service, Tracy and Livermore area, good references, good and free estimates, call now!!!! 209-612-3185

QUALITY PAINTING, take advantage of low season prices now. Excellent references, prep work and workmanship. 25 yrs exp. Call before it gets too hot 510-537-7222

Wedding Photography; 25 years exp. Medium format cameras used. Reasonable prices. 925-829-1474

Exquisite murals, faux finishing, Trompe L oeil, decorative painting, 3D bricks, and childrens fantasy rooms. 925-461-5045

SHARED HOUSING

Livermore - - Share 4 Bdrm/2Ba home with one other person on W. side of town. Kitchen/Laundry priv., no pets/smoking. \$550 month + 1/2 utilities & deposit. 925-294-8765

Livermore - Studio Cottage in Downtown Livermore w/ full bath & kitchenette. Professional no-smoking individual. No animals. \$750 which includes utilities. 925-784-9110

Livermore - Room to rent in a clean house for a female. Close to lab. No pets/no smoking. \$600/month including utility. Deposit. Available immediately. 925-606-5660

Pleasanton - \$700 a month room for rent, full private bath, walk in closet, luxury town home, no smokers 925-461-5045

TRUCKS & TRAILERS

1997 - Doge Dakota, Sport, 5-speed manual, standard cab, 63k miles, dual front air bags, AC, clean, KBB \$4k, asking \$3,690 OBO, must sell, call 209-351-0055

1992 - Toyota Pickup DLX Short Bed 4x4, 5 speed manual, std cab, red with cap, runs well, 137k miles, \$3,100. 925-961-0661

1996 - RANGER XLT, good running work truck. Bedliner, cassette, V6, extra cab, A/C, alarm. Good condition. 5,600.00 510-537-7222

2001 - Dodge 1-Ton Dualie, 5-spd, long bed, ext cab, diesel, trailer brake control. 72,000

NEWS OF NOTE



MOLECULES

Continued from page 1

high-affinity ligands) that bind to unique sites on the surfaces of proteins. And his novel creations are beginning to show promise.

SHALs have a diameter of three to four nanometers (a nanometer is one-billionth of a meter). A virus, in comparison, is an ungainly 30 to 50 nanometers wide. To put this infinitely small scale in context, the distance between two lines of a fingerprint is about 80,000 nanometers.

SHALs are an example of nanotechnology, a young field that may have far-reaching implications for cancer. SHALs are among the most exciting results to emerge so far from the pioneering partnership between the UC Davis Cancer Center and the Laboratory, in which scientists are turning biodefense technology into a new cancer offense.

Balhorn originally conceived of SHALs as a way to thwart bioterrorism. He wanted to design molecules to bind to potential bioterror agents like botulism or anthrax in order to quickly and efficiently detect and neutralize them.

But it wasn't long before the biochemist envisioned medical applications for his technology. "When I attended meetings with UC Davis Cancer Center researchers," he said, "I saw the potential of SHALs to fit their needs."

One cancer researcher excited about this potential is Hsing-Jien Kung, deputy director of the UC Davis Cancer Center and director of its basic science program. Kung's research focuses on the androgen receptors on the surface of prostate cells. When these receptors are "activated" in prostate cancer, they go into high gear, resulting in rapid cancer growth and a poor prognosis for the patient. But distinguishing this activated form of the disease from less aggressive prostate cancer has always been problematic.

Enter Balhorn and his SHAL toolkit. Based on knowledge of the conformational structure of the activated receptor, Balhorn and his team can design a SHAL that will bind to it. Attached to a fluorescent tag, the SHAL can lock onto activated androgen receptors and alert Kung that they are present in the prostate cancer cell.

The work is still in its initial phases, but Kung is optimistic about its potential. "SHALs may be able to help a clinician predict whether a cancer needs aggressive therapy before it grows out of control," Kung said. "This is a remarkable technology with far-reaching applications that no other current method offers."

Kung also hopes SHALs may be used to fight prostate cancer directly. By competing with the androgens (male hormones) that would otherwise bind to activated receptors, Balhorn's SHALs may block the signal for more rapid cell growth and thereby inhibit the cancer.

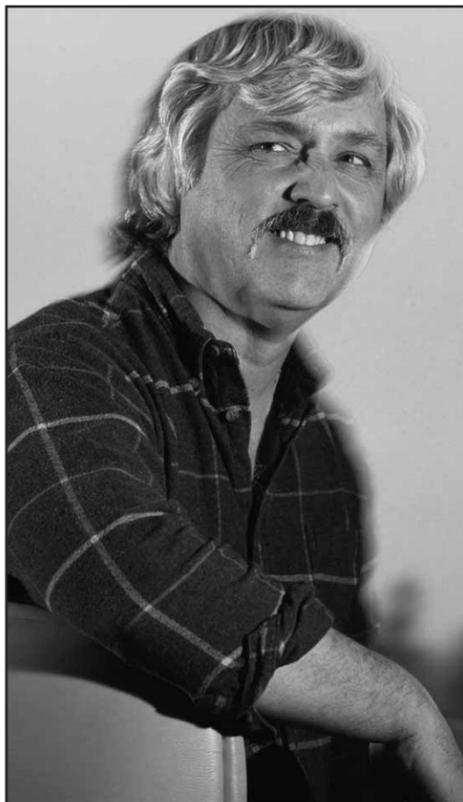
Most cancer treatments today damage normal as well as malignant tissue, making such side effects as hair loss and nausea all too familiar to cancer patients undergoing conventional therapy.

But SHALs, like a Trojan horse, can be designed to carry their means of destruction with them, in the form of a radioactive isotope or potent anti-cancer drug. After seeking out and binding to cancer cells, SHALs can unleash their weaponry locally, minimizing the risk to normal cells. This would be a particular boon to patients with metastatic disease, in which a cancer has spread throughout the body.

Gerald and Sally DeNardo, co-directors of the Radiodiagnosis and Therapy Program at UC Davis, are testing radionuclide-toting SHALs to attack non-Hodgkins lymphoma cells in mice, an application that may be used in human clinical trials within the next few years. If this is successful, doctors one day may be able to deliver lethal radiation specifically to cancer cells, sparing normal tissue.

Nanotechnology, which encompasses minute biologics and machines on the scale of nanometers, has the potential to transform every medical discipline as well as a host of industries. Governments and private companies worldwide are jumping on the nanobandwagon, investing around \$8.6 billion in 2004.

"Nanotechnology is poised to enable radical new approaches in basic cancer research and clinical cancer care," said Anna Barker, deputy director for strategic scientific initiatives with the National Cancer Institute, which last summer earmarked \$144.3 million for nanotechnology research over the next



Rod Balhorn

five years.

Nanotechnology's diminutive size gives it such enormous potential in medicine: nanosize molecules can cross membranes, enter cells and interact with other molecules within and among cells. "You need to get to a certain scale to gain access," Balhorn said. "Nanotechnology gives scientists the ability to actually mimic biologic processes that occur at the molecular level."

To design a SHAL, computational biologist Felice Lightstone performs computer searches of databases that list all commercially available organic molecules, including sugars, amino acids and dyes and detergents — some 300,000 in all — to find the best match for a target site. After Lab bioscientist Monique Cosman tests some of the molecules by NMR spectroscopy to confirm they bind, synthetic chemists Julie Perkins and Saphon

Hok then combine the chosen fragments into a single molecule and mix this newly created SHAL with the target to see if they bind.

High affinity for the target is important, not just so the SHAL can do its job, but also so it can outperform other molecules in the body that may fit the same target. If necessary, Balhorn can tinker with a SHAL to enhance its affinity for a particular target. For example, it has been determined that connecting two of the "best-fit" molecules with a "linker" molecule improves its affinity up to a million-fold.

The synthetic molecules he and his LLNL team create act just like antibodies in the immune system, Balhorn explained. But unlike natural antibodies, SHALs are often too small to elicit an immune response — and therefore aren't destroyed by our body's natural defenses.

Along with his colleagues in the new field of nanotechnology, Balhorn has big dreams for these tiny tools: He hopes SHALs will revolutionize how researchers and clinicians learn about, diagnose and treat cancer and many other diseases of our time.

Reprinted from the Spring/Summer 2005 issue of Synthesis, a publication of the UC Davis Cancer Center.

CLASSIFIED ADS

Miles. \$19,500. FIRM 925-997-6802

Utility trailer. Good for small moves or to the dumps. \$300 OBO. 925-443-2808

2000 - Chevy Tahoe Z71, 4WD, Tow, Leather, power everything. \$15,500 925-784-2717

1977 - Winnebago class C motorhome, 20 ft., self contained, sleeps 6, Dodge 360 V-8 engine, 78K miles, extras, good condition. \$2500/offer 209-545-6892

1985 - Chevy K5 Blazer, 350, rebuilt auto tranny, pwr locks and windows, 4in. lift, A/C. 198,000 mi., runs great. leave message. \$3,200 o.b.o 209-239-1963

1995 - Cruise Master-motor home (A). 33 feet. Full Shower, Leveling

jacks, duct air & heat. Excellent Cond. 55,000 miles. Asking 28,850. 209-892-3580

1947 - Willys Jeep. Stock with extras. In running condition. Asking 3,000.00. 925-373-6651

VACATION RENTALS

Sooo cute beach cottage in Santa Cruz. 2bedr, 2 bath, spa. Weeknite special thru April. \$75 a night. Plan ahead for summer fun. 925-245-1114

Nice mountain cabin above Arnold near Bear Valley. 4brdm, 2bath, sleeps 10-12. Weekday special \$75/night through April. 925-245-1114

South Lake Tahoe - Large comfort-

able home just minutes from skiing and casinos, game room and spa sleeps 12 NS, NP 925-484-3162

Solana/Beach/Del Mar - Oceanfront condo, deluxw 2 br., 2 1/2 ba., fully equiped, tennis, pool, jacuzzi, gated and covered parking, near San Diego attractions 925-443-2271

Lake Tahoe - condo for rent, Incline Village, 2brdm, sleeps 6, avail April 3-10, \$150/nt, 2 night min. stay, or \$800/wk. Very Nice. 443-5714 925-443-5714

Marriott Hotel Manhattan Beach, CA gift certificate valid for Friday or Saturday stayover, includes hotel tax. Paid \$120 at silent auction. \$75. 925-648-0671

Perfect location for skiers! Tahoe

cabin for rent 2 blocks from Heavenly. Sleeps approx 8 adults. \$400/wk, \$200/wknd. 925-240-1615

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, comfortably furnished, all amenities, close to all skiing, RESERVE NOW! HURRY FOR SKIING/WINTER FUN!! 209-599-4644

CAPE COD. On the Outer Cape in Wellfleet. 2 hrs from Boston Logan. AC. Sleeps 7 in 2 BR. 925-443-7499

WANTED

Wanted: Plastic outdoor play set for toddler. 925-413-1312

Wanted--Teams for American

Cancer Society Relay For Life. Lets fight CANCER together. 10 members per team. Contact Ken Rovasio 925-373-9435

Looking to rent affordable house/condo in San Jose or surrounding area. [Mountain View, Palo Alto, Redwood City]. 2-3 Bedrooms. 925-963-2965

Wanted - violin for beginner. 510-601-5180

Accordion in good /great condition for practice-Lessons. 209-576-0217

Need inexpensive older vehicle (small) in good condition that gets close to 30/mpg. Maximum price \$2,500. Home 209-952-5305

MOVE*Continued from page 1*

"A tremendous amount of planning has gone into moving into the TSF, for both the people and the equipment parts, planned by Barbara Atkinson, Doug East and Janet Conrad," said Mike McCoy, head of the Integrated Computing and Communications Department. "They deserve a lot of credit for smoothly moving people and equipment in waves."

The equipment move was especially challenging since large systems, such as BlueGene/L, for which the building was designed, are still being installed, McCoy noted. "Trying to keep redundancy in the system so the users are not unduly affected has been a challenge."

Now comfortably ensconced in his second floor office, McCoy has been reflecting on the genesis of the supercomputing facility. "I still remember the day in 1996 when Mark Seager and I extrapolated the power and space requirements for TSF and wrote them on the white board in my office," he recalled. "After Mark peeled me off the ceiling, we went over to the Defense and Nuclear Technologies Directorate and gave then Associate Director Mike Anastasio the bad news, that he needed a building with enough space on the floor to land an F-14 and enough power in it to run a small city. You know what? Our numbers were right on. Everything we needed, a four-foot under floor, clear span, power, space, was defined that day. About three years later, I erased that white



Moving into the Terascale Simulation Facility has been a coordinated effort for both people and equipment. At left, Gerald Walker stacks boxes. Bottom, Ranee Farrell and Troy Weaver of Computation install a computer in a newly occupied office in the TSF.

JACQUELINE MCBRIDE/NEWSLINE

board. Now I regret it."

The TSF was designed to house the supercomputers — Blue Gene/L, Option Purple and future systems — supporting the DNT's stockpile stewardship mission.

Dona Crawford, associate director for Computation, said a "great team effort from meticulous planning to flawless execution" have allowed the move to progress with minimal disruption to the services the directorate provides to Laboratory programs.

"This facility represents the dawn of a new era for high-performance computing at the Laboratory and the critical role it now plays in scientific discovery," said Crawford, who is scheduled to move into the building March 31. "It is only fitting that a large scientific computing facility should occupy the heart of the Laboratory, given our long history



of computational pioneering and excellence."

The TSF will stand as a monument to the Lab's computational legacy, McCoy reflected. "I must say I have a great sense of satisfaction being in this building and knowing that it will be here long after I am gone."

(For more about the TSF, see the page 22 article in the January/February edition of Science & Technology Review available on line at: www.llnl.gov/str)

HUERTA*Continued from page 1*

catch up."

"Our country is in crisis," she said, often alluding to examples of threatened programs like Head Start and Social Security. "We have more work to do. We need to open our minds and work with each other," Huerta urged the audience.

Raised in Stockton after the Depression, Huerta's early memories of growing up were that of living in a richly diverse neighborhood amid many ethnic groups where individuals could learn about each other's cultures.

But, she remembers later in life, facing the issue of segregation in the housing project where she worked. While assigning apartments, Huerta's aim was to "mix things up," as she put it, just as she had been raised, not divide the African Americans, Latinos and Asians, as the management dictated.

Her early years fueled her desire to help others and seek justice for the disenfranchised. During the '50s and '60s, her beliefs launched her into roles of community service supporter, organizer and lobbyist, eventually teaming with Cesar Chávez to improve the working conditions of migrant farmers, co-founded the United Farm Workers Association and carry out the historic grape boycott.

Huerta recalled a time when farm workers appealed through union contracts to secure even the most modest of necessities like clean toilets and drinking water. But some victories do not come without high costs, she shared, remembering that many farm workers were



JACQUELINE MCBRIDE/NEWSLINE

Labor leader Dolores Huerta is greeted by Director Michael Anastasio at the conclusion of her presentation in the Bldg. 123 auditorium Tuesday.

killed, and she herself was jailed more than 20 times and injured in attempts to seek justice. "You wouldn't think it would take that much to get basic needs met."

Some remarks were tinged with humor, generating laughter from the audience. "Who would you rather have with you on a desert island?" she asked. "An attorney or a farmer?"

But Huerta showed a thoughtful side as well. About education, she said that what is needed is "education of the heart...It is not enough to know something, you must apply it in a special way. When we receive a diploma, we should ask 'how can I use this to help the world?'"

On the subject of raising children, Huerta advised parents against showering them with toys. "Give them values instead," she suggested.

Regarding economics, Huerta believes that wealth in the United States is not evenly distributed enough. "You can only eat three meals

a day, and wear one suit of clothes at a time. Why have so much money if it is not being used for the good of humanity?" she quipped.

This week, Huerta visited Sacramento where she was honored by the California State Assembly as one of the 2005 Women of the Year. Huerta's talk was a key partnership of the Lab's Women's Association, the Amigos Unidos Networking Group and the Worklife Program. The Amigos Unidos group has recognized Cesar Chávez Day for the past three years. The Lab's Women's Association has been actively celebrating March as Women's History Month since 1989.



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